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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	Group Art Unit: 1645
FRANK et al.	Examiner: Swartz, R.
Serial No.: 09/196,447	AMENDMENT AND RESPONSE 37 CFR 1.111
Filed: November 19, 1998	
Atty. File No.: 2618-13-3-1	
For: "FILARIID ANTI-P22U ANTIBODIES"	

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, DC 20231 ON 10/23/01

SHERIDAN ROSS P.C.

BY: Kathleen Russell

BOX NON-FEE AMENDMENT
Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This Amendment and Response is filed in response to the Office Action mailed from the Patent and Trademark Office on June 27, 2001. Applicants have attached hereto a Request for a one-month extension of time to extend the time for response from September 27, 2001 to October 27, 2001, and the requisite fee. No additional fees are believed to be due in connection with this response, but if additional fees are due, please debit Deposit Account No. 19-1970.

Please amend and reconsider the application as follows:

IN THE SPECIFICATION:

On page 1, please delete the paragraph spanning lines 3-14 and insert therefor:

--The present application is a divisional application of U.S. Application Serial No. 08/460,428, filed June 2, 1995, ~~entitled "PARASITIC HELMINTH P22U PROTEINS,~~ now U.S. Patent No. 5,912,337, ~~issued on June 15, 1999~~, which is a continuation-in-part of U.S. Patent Application Serial No. 08/003,257, filed January 12, 1993, ~~entitled "Reagents and Methods for Identification of Vaccines"~~, of U.S. Patent Application Serial No. 08/003,389, filed January 12, 1993, ~~entitled "Immunogenic Larval Proteins"~~; and of U.S. Patent Application Serial No. 07/654,226, filed February 12, 1991, ~~entitled "Reagents and Methods for Identification of Vaccines"~~.

which is a Continuation of U.S. Application 08/109,391, now U.S. Pat. No. 5,639,876

now abandoned

now abandoned

now abandoned

RLG 5-16-05

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RDS 5-16-05 B1

~~Serial Nos. 08/003,257 and 08/003,389 are also continuation-in-parts of Serial No. 07/654,226.~~ Each of these applications is incorporated by reference herein in their entireties --.

Please delete the paragraph spanning page 24, line 23 through page 25, line 19 and insert therefor:

--The protein encoded by *D. immitis* p4 is further characterized by having an LDL receptor-related protein (LDLr) class A cysteine-rich motif of about 9 amino acids that is also found in several other proteins, including mammalian low density lipoprotein (LDL) receptors, LDL receptor-related proteins, human and mouse alpha-2-macroglobulin receptors and rat renal GP 330 glycoprotein. Each of these proteins, including *D. immitis* P4, share the sequence DDCGDGSDE (i.e., Aspartic Acid -- Aspartic Acid -- Cysteine -- Glycine -- Aspartic Acid -- Glycine -- Serine -- Aspartic Acid -- Glutamic Acid), denoted herein as SEQ ID NO:5. A conserved stretch of eight of the nine amino acids is also found in the free-living (i.e., non-parasitic) nematode *Caenorhabditis elegans* LDL receptor-related protein and *C. elegans* basement membrane proteoglycan. This LDLr class A, cysteine-rich motif is likely to be conserved in proteins encoded by p4-related sequences of other helminths (i.e., nucleic acid sequences that hybridize under stringent conditions with *D. immitis* p4). As such, p4-related nucleic acid sequences may be identified using oligonucleotide probes that encode such LDLr class A motifs. Furthermore, the LDLr class A motif in P4-related proteins represents a target for development of therapeutic compositions to protect animals from parasitic helminth infection, as discussed below.--

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On page 68, please delete the paragraph spanning lines 2-24 and insert therefor:

--The chromatogram depicting the tryptic fragments of P22U is shown in FIG. 2. The fragments indicated by asterisks were submitted for sequencing. All sequencing was conducted at Macromolecular Resources, Department of Biochemistry, Colorado State University, Fort Collins, Colorado. The peptides were concentrated to 50 µl or less using a Speedvac® and frozen at about -20°C until sequencing. N-terminal sequencing was conducted in an ABI Model 473A Protein/ Peptide Sequencer System (Applied Biosystems, Inc., Foster City, California) using pulsed liquid chemistry and on line microgradient PTH amino acid analysis (see, for example, Hewick et. al., 1981, *J. Biol. Chem.* 256, p. 7990-7997; Geisow and Aitken, 1989, in Findlay, J.B.C. and M.J. Geisow (ed.). *Protein Sequencing: A Practical Approach*, p. 85-98). The most likely sequence of

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